Michael Roark
Machine Learning Engineer

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EDUCATION

M.A. Mathematics | Emphasis in Statistics & M.L.　　　San Francisco State University　2022
Thesis: *Formal Verification of Neural Networks via Optimization Methods*

B.A. Mathematics | Minor in Computer Science　　　San Francisco State University　2019

EXPERIENCE

Ebay Inc. | Software Engineer II | Ebay Valet Initiative　　　SF, CA　2016 - 2017
Ebay Valet is a white glove consignment service for trusted Ebay partners.

- Enabled v1 release of Ebay Valet warehousing tools by developing Auth & Auth security solution.
- Served as team Security Champion ensuring project adherence to E-Commerce & security best practices.
- Full-stack contributor to microservice based warehousing tools.
- Tech Stack: Golang, NodeJS, Java, Mongo DB, React, Material UI, Kubernetes, Nginx

Mocana Corp. | Member of Technical Staff | Mobile App Protection　　　SF, CA　2013 - 2015
Mocana's MAP suite offers configurable security solutions for mobile enterprise apps.

- Met key client needs by developing cross-tab Javascript support in flagship secure iOS Browser.
- Full stack contributor for cross platform (iOS/Android) application command/control channel.
- Tech Stack: iOS/Objective-C, C, C++, Java Spring, Ruby-on-Rails, Apache

Andover Consulting Group L.L.C. | Lead Dev. | In-House Software　　　SF, CA　2011 - 2013
Andover ran multiple online store fronts for enterprise hardware.

- Increased sales efficiency by developing auto-arbitrage framework for managing inventory pricing.
- Full stack contributor for in house warehousing and point-of-sale software suite.
- Tech Stack: PHP, MySQL, jQuery, Bash, Apache

SKILLS

Languages & Technologies:　Python, Pandas, Numpy, PyTorch, R, SQL, Bash, Typescript

Applications & Tools:　Git, Docker, Vim, PyCharm, MySQL, GCP, Jira

MACHINE LEARNING PROJECTS

Formal Verification of Neural Networks　　　2022
　Python implementations of optimization based algorithms for verifying robustness of classifier networks.

Time Series Analysis　　　2020
　Comparison of time-series analysis and forecasting methods on a synthetic dataset.

Baum-Welch Algorithm　　　2019
　Implementation of the Baum-Welch algorithm for estimating the parameters of a Hidden-Markov model from a sample sequence.

StereographiCam　　　2017
　StereographiCam was a machine-vision project which synchronized multiple iOS cameras to capture and display stereographic image tuples.